Also published as:

US4996257 (A1) JP1268609 (A)

GB2219301 (A)

FR2630124 (A1)

IT1232998 (B)

## Surface-treated polyorganosilsesquioxane fine powder

Patent number:

DE3912878

**Publication date:** 

1989-11-02

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Classification:

- international:

C08J3/00; C08J3/12; C08K9/06; C08L83/04; C09D5/16;

C09D7/12

- european:

C08G77/06, C08J3/00B, C08J3/12, C09D5/16C7

Application number: DE19893912878 19890419 Priority number(s): JP19880094548 19880419

Abstract not available for DE3912878 Abstract of correspondent: **US4996257** 

A polyorganosilsesquioxane fine powder which is surface-treated with an organosilicon comound containing a quaternary ammonium group, represented by the formula (I) or (II): (I) (II) wherein R1 represents an alkyl group, a substituted or unsubstituted aralkyl group, or a group represented by (CnH2nO)mZ wherein Z represents a hydrogen atom or an alkyl group, symbol n is an integer of 2 to 4, and symbol m is an integer of 1 to 20; R2 and R3 each independently represents a hydrogen atom, an alkyl group or a hydroxyalkyl group; Q1 and Q2 each independently represents an alkylene group; R4 represents an alkyl group or a phenyl group; R5 represents an alkyl group having 1 to 4 carbon atoms; X- represents an anion; and symbol a is an integer of 0 to 3.

$$(R^{1}R^{2}R^{3}N^{+}Q^{2}Si(R^{4})_{a}(QR^{5})_{3-a})$$
 (1)

$$\{R^{1}R^{2}R^{3}N^{4}Q^{2}NHQ^{1}Si(R^{4})_{a}(OR^{5})_{3-a}\}$$
 (II)

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L19 ANSWER 2 OF 2 CA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

112:181555 CA

TITLE:

Surface-treated silsesquioxanes for antifouling

INVENTOR(S):

Saito, Kenji; Kimura, Hiroshi Toshiba Silicone Co., Ltd., Japan

SOURCE:

Ger. Offen., 7 pp.

CODEN: GWXXBX

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT ASSIGNEE(S):

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3912878	A1	19891102	DE 1989-3912878	19890419
JP 01268609	A2	19891026	JP 1988-94548	19880419
JP 2532124	B2	19960911		
GB 2219301	A1	19891206	GB 1989-8477	19890414
GB 2219301	В2	19910925		
US 4996257	A	19910226	US 1989-340509	19890418
FR 2630124	A1	19891020	FR 1989-5231	19890419
FR 2630124	В1	19940225		
PRIORITY APPLN. INFO.	:	JP	1988-94548	19880419
OMURD GOUDGE (C).	1.77	DDAM 119.101EEE		

OTHER SOURCE(S):

MARPAT 112:181555

The title powders are treated with the quaternary ammonium salts [R1R2R3NZ1Si(R4)a(OR5)3-a] + X = or [R1R2R3NZ2NHZ1Si(R4)a(OR5)3-a] + X - [R1 = 0]alkyl, aralkyl, polyoxyalkylene; R2, R3 = H, (hydroxy)alkyl; R4 = alkyl, Ph; R5 = alkyl; Z1, Z2 = alkylene; X = anion; a = 0-3]. A Me silsesquioxane (av. particle size 2 .mu.m) was milled with 0.8 phr [C18H37N(Me)2(CH2)3Si(OMe)3]+ Cl- in MeOH and dried at 105.degree. to give a powder. A mixt. of this powder 100, vehicle 200, Fe2O3 30, and iso-BuCOMe 50 parts was sprayed (100 .mu.m) on primed steel and left 24 h at room temp, to give a coating showing little or no fouling by marine organisms after 6 mo in seawater.

IT126739-07-9

RL: USES (Uses)

(powd. silsesquioxanes treated with, for antifouling coatings)

RN 126739-07-9 CA

1,2-Ethanediamine, N-[(4-methylphenyl)methyl]-N'-[3-CN (trimethoxysilyl)propyl]-, monohydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c} \text{OMe} \\ \text{OMe} \\ \text{OHe} \\ \text{OMe} \\ \text{OMe} \\ \end{array}$$

● HCl